

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P624690

Luminaire Tested: S930DIP-W335-X4-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624690
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35539-R2)
Test Lab: INNOVATION CENTER
Issue Date: 11/3/2022
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S930DIP-W335-X4-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 4-FOOT LED WaveStream LUMINAIRE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

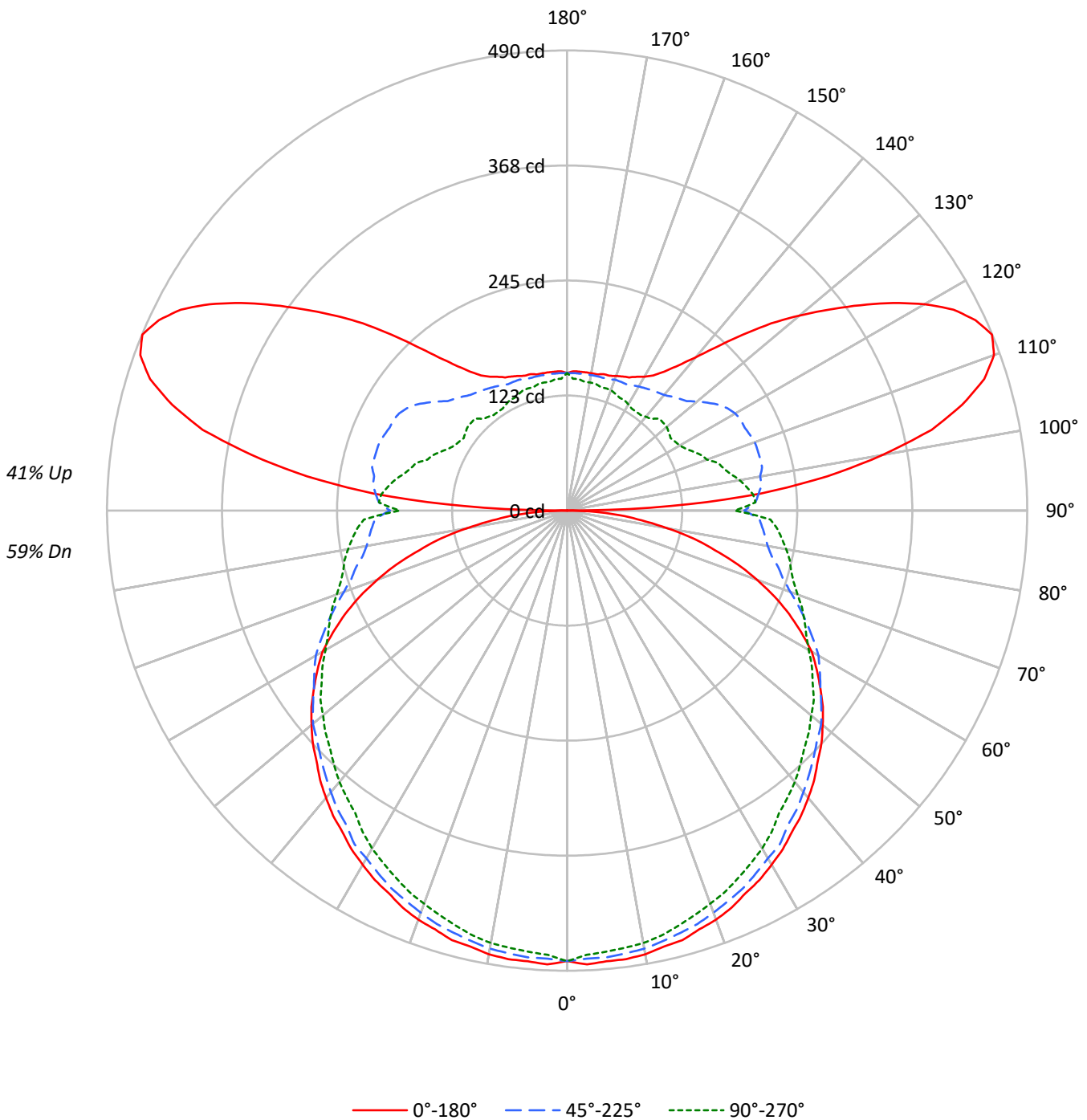
Lumens per Lamp: N/A
Luminaire Lumens: 3248.2 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 29.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	109	109	109	109	102	102	102	102	88	88	88		76	76	76		65	65	65	59
1	97	92	87	82	90	85	81	77	73	70	67		63	60	58		53	51	49	44
2	87	78	71	65	81	73	67	61	63	58	53		54	50	46		45	42	39	35
3	79	68	60	53	73	63	56	50	55	49	44		46	42	38		39	35	32	28
4	72	60	51	44	66	56	48	42	48	42	37		41	36	32		34	30	27	24
5	66	53	44	37	61	49	41	35	43	36	31		36	31	27		31	27	23	20
6	61	47	38	32	56	44	36	30	38	32	27		33	28	23		28	23	20	17
7	56	43	34	28	52	40	32	26	35	28	23		30	24	21		25	21	18	15
8	52	39	30	24	48	36	29	23	31	25	21		27	22	18		23	19	16	13
9	48	35	27	22	45	33	26	21	29	23	18		25	20	16		21	17	14	12
10	45	32	25	19	42	30	23	18	26	21	16		23	18	15		20	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2020	2020	2020
5°	2029	1983	1951
10°	2036	1954	1915
15°	2041	1923	1870
20°	2046	1899	1830
25°	2047	1879	1796
30°	2066	1857	1765
35°	2083	1838	1721
40°	2119	1832	1715
45°	2154	1832	1702
50°	2213	1856	1712
55°	2275	1864	1727
60°	2358	1915	1746
65°	2378	1938	1810
70°	2362	1984	1905
75°	2277	2135	2079
80°	2109	2415	2376
85°	1814	2991	2816

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 5042 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.5	1.4
10°-20°	131.9	4.1
20°-30°	204.6	6.3
30°-40°	256.6	7.9
40°-50°	286.3	8.8
50°-60°	293.8	9.0
60°-70°	273.5	8.4
70°-80°	233.1	7.2
80°-90°	195.6	6.0
90°-100°	223.3	6.9
100°-110°	273.7	8.4
110°-120°	259.1	8.0
120°-130°	204.4	6.3
130°-140°	144.1	4.4
140°-150°	98.8	3.0
150°-160°	68.6	2.1
160°-170°	41.4	1.3
170°-180°	13.9	0.4
0°-30°	382.1	11.8
0°-40°	638.7	19.7
0°-60°	1218.7	37.5
0°-90°	1920.9	59.1
90°-120°	756.0	23.3
90°-150°	1203.3	37.0
90°-180°	1327.0	40.9
0°-180°	3248.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	480	480	480	480	480	
5°	482	482	478	478	472	46
15°	474	472	466	466	458	134
25°	450	448	444	442	432	208
35°	417	413	409	405	393	262
45°	377	373	371	369	357	292
55°	329	325	329	333	319	295
65°	261	267	281	285	279	257
75°	163	191	233	251	247	172
85°	56	144	209	225	225	56
90°	0	163	189	187	179	19
95°	207	225	205	203	199	194
105°	436	345	213	183	173	452
115°	480	363	209	161	148	470
125°	381	303	197	152	134	343
135°	265	223	169	146	138	207
145°	181	173	156	140	128	116
155°	156	154	148	142	132	73
165°	150	148	146	144	136	43
175°	148	148	146	146	140	14
180°	146	146	146	146	146	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	479.7	479.7	479.7	479.7	479.7
2.5°	483.7	481.7	477.6	479.7	473.6
5°	481.7	481.7	477.6	477.6	471.6
7.5°	481.7	479.7	475.6	475.6	469.6
10°	479.7	477.6	473.6	473.6	467.6
12.5°	475.6	475.6	469.6	469.6	463.6
15°	473.6	471.6	465.6	465.6	457.6
17.5°	467.6	465.6	461.6	459.6	451.6
20°	463.6	461.6	455.6	453.6	445.5
22.5°	457.6	455.6	449.5	447.5	439.5
25°	449.5	447.5	443.5	441.5	431.5
27.5°	443.5	441.5	435.5	433.5	423.5
30°	435.5	433.5	427.5	423.5	415.4
32.5°	427.5	423.5	421.5	415.4	405.4
35°	417.4	413.4	409.4	405.4	393.4
37.5°	409.4	405.4	401.4	397.4	385.3
40°	399.4	393.4	391.3	387.3	377.3
42.5°	389.3	383.3	381.3	379.3	367.3
45°	377.3	373.3	371.3	369.3	357.2
47.5°	367.3	361.2	361.2	359.2	349.2
50°	355.2	349.2	353.2	351.2	339.2
52.5°	343.2	339.2	341.2	343.2	331.1
55°	329.1	325.1	329.1	333.1	319.1
57.5°	315.1	313.1	319.1	321.1	309.1
60°	301.0	299.0	309.1	309.1	297.0
62.5°	281.0	283.0	295.0	297.0	287.0
65°	260.9	266.9	281.0	285.0	279.0
67.5°	238.8	250.9	266.9	277.0	270.9
70°	214.7	232.8	252.9	266.9	260.9
72.5°	190.7	212.7	240.8	258.9	252.9
75°	162.6	190.7	232.8	250.9	246.9
77.5°	138.5	170.6	222.8	244.8	242.8
80°	108.4	154.5	216.7	238.8	236.8
82.5°	80.3	144.5	212.7	232.8	230.8
85°	56.2	144.5	208.7	224.8	224.8
87.5°	30.1	152.5	204.7	218.8	216.7
90°	0.0	162.6	188.6	186.6	178.6
92.5°	110.4	192.7	200.7	202.7	200.7
95°	206.7	224.8	204.7	202.7	198.7
97.5°	279.0	256.9	208.7	196.7	192.7
100°	341.2	291.0	208.7	192.7	186.6
102.5°	397.4	319.1	212.7	186.6	178.6
105°	435.5	345.2	212.7	182.6	172.6
107.5°	465.6	363.3	212.7	178.6	168.6
110°	483.7	371.3	212.7	174.6	158.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	489.7	371.3	210.7	166.6	154.5
115°	479.7	363.3	208.7	160.6	148.5
117.5°	463.6	353.2	208.7	156.5	142.5
120°	439.5	339.2	206.7	154.5	138.5
122.5°	411.4	321.1	202.7	152.5	136.5
125°	381.3	303.0	196.7	152.5	134.5
127.5°	351.2	283.0	188.6	154.5	136.5
130°	323.1	262.9	180.6	154.5	138.5
132.5°	295.0	242.8	172.6	152.5	138.5
135°	264.9	222.8	168.6	146.5	138.5
137.5°	236.8	204.7	164.6	142.5	132.5
140°	212.7	192.7	160.6	140.5	130.4
142.5°	194.7	182.6	158.5	138.5	128.4
145°	180.6	172.6	156.5	140.5	128.4
147.5°	170.6	166.6	154.5	140.5	128.4
150°	164.6	162.6	152.5	140.5	130.4
152.5°	160.6	158.5	150.5	142.5	132.5
155°	156.5	154.5	148.5	142.5	132.5
157.5°	154.5	152.5	148.5	142.5	134.5
160°	152.5	150.5	148.5	142.5	136.5
162.5°	150.5	150.5	146.5	144.5	136.5
165°	150.5	148.5	146.5	144.5	136.5
167.5°	148.5	148.5	146.5	144.5	138.5
170°	148.5	148.5	146.5	144.5	138.5
172.5°	148.5	148.5	146.5	144.5	138.5
175°	148.5	148.5	146.5	146.5	140.5
177.5°	148.5	148.5	146.5	146.5	140.5
180°	146.5	146.5	146.5	146.5	146.5



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	11.01	12.05	11.87	12.94	14.07	11.66	12.70	12.52	13.60	14.72
	3H	13.11	14.06	13.98	14.96	16.11	14.44	15.39	15.30	16.29	17.44
	4H	13.89	14.80	14.77	15.70	16.86	15.89	16.80	16.78	17.71	18.87
	6H	14.47	15.31	15.36	16.22	17.40	17.52	18.36	18.41	19.27	20.45
	8H	14.66	15.46	15.56	16.39	17.57	18.38	19.19	19.28	20.12	21.29
	12H	14.78	15.55	15.69	16.47	17.68	19.33	20.10	20.24	21.03	22.23
4H	2H	11.84	12.75	12.73	13.65	14.81	12.33	13.23	13.22	14.14	15.30
	3H	14.19	14.96	15.08	15.90	17.08	15.33	16.11	16.23	17.05	18.22
	4H	15.15	15.86	16.06	16.80	18.00	16.96	17.68	17.87	18.61	19.81
	6H	15.90	16.53	16.82	17.49	18.69	18.77	19.41	19.69	20.36	21.56
	8H	16.18	16.77	17.10	17.72	18.94	19.75	20.34	20.67	21.29	22.51
	12H	16.37	16.92	17.32	17.88	19.11	20.81	21.36	21.76	22.32	23.55
8H	4H	15.87	16.46	16.79	17.41	18.63	17.37	17.96	18.29	18.91	20.13
	6H	16.90	17.41	17.85	18.39	19.61	19.41	19.91	20.36	20.90	22.12
	8H	17.36	17.81	18.31	18.79	20.02	20.55	21.01	21.51	21.98	23.21
	12H	17.73	18.13	18.69	19.11	20.38	21.82	22.22	22.78	23.20	24.47
12H	4H	16.08	16.62	17.02	17.59	18.81	17.41	17.95	18.35	18.92	20.14
	6H	17.27	17.73	18.23	18.70	19.93	19.53	19.99	20.49	20.97	22.20
	8H	17.86	18.26	18.82	19.24	20.51	20.76	21.17	21.72	22.14	23.41